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THE VALUE OF EDUCATION TO THE FARMERS

BY

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MASTER OF SCIENCE**

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PREFACE.

The power of education to increase farm profits is hard to estimate. It is often asked; "does it pay a farmer to have an education?", but too often is answered in an indefinite sort of way. True, it is next to impossible to estimate the value of an education, in dollars and cents, as much must be valued in terms of satisfaction.

The following treatise is not an attempt to set or establish any definite values, the specific figures and averages are not supposed to be important within themselves, but the general tendencies which they indicate are considered worthy of notice and study.

* * *

INTRODUCTION.

The conflicting opinions regarding the advisability of making educational preparation for farming, and the apparent scarcity of information and definite data on this point has led me to believe that such an investigation would at least be of interest to many and may possibly serve as a source of argument for further encouraging the universal education of our American farmer boys.

A thorough search for data compiled on this subject, resulted only in confirming my belief that but little is available. There are, however, some available published results. The Missouri Agricultural Experiment Station Circular No. 77 is on this subject, and gives the results of such a survey made in Johnson County of that State. The method of study differs considerably, however, from that used herein. The Colorado Agricultural College Newsletter 308, also contains some summaries of this nature, while both the Cornell and Kansas Stations have made somewhat similar surveys.

The main objection to forming definite conclusions from such data is, that ordinarily the number of actual farmers considered, who have had an extended educational equipment, are too few. They serve as striking examples,

but do not afford sufficient data for drawing conclusions.

The data from which the following study was made have the advantage over a county survey in that they contain a relatively high percentage of the better educated farmers. In the main all of the farmers are of the more progressive type. It is quite probable that the differences in their educational equipment are due to differences of early opportunity and desire on their own part.

The records studied were furnished through the courtesy of the Department of Agricultural Economics and were obtained by the "Wisconsin Farm Contest" movement, in which many farmers throughout the state keep simple, accurate farm accounts. This work was begun in 1913 and farmers located in twenty-six counties are now participating in it. While all farmers are encouraged to take part, it is the more progressive farmers who begin first. The records taken since 1913 were used, thus giving a large scope, fairly representative of Wisconsin farming business. Some of the farmers have kept a record each year, thus in some cases, two or even three records of the same farmer may have been considered. All told, 825 accurate records were included in this study.

Interpretation of Replies.

Besides the farm account book in which the farmer himself records all financial transactions of his farm and which he turns in to the College of Agriculture at the end of each year, for auditing, he also replies to a questionnaire in which the following questions are asked:

FARM MANAGEMENT DEMONSTRATION AND FARM CONTESTGeneral Data.

Farm No.....January 1, 1916.

Name.....Address.....

How many years an owner.....Nationality.....

Estimated age.....

Miles to R.R. Station.....Direction from town.....

Home Life:**Conveniences:**

Heating System.....Bath.....

Water System.....

Lighting System.....

Highest school attended by farmer:

1. Common school
2. High school

3. College (Long or Middle Agricultural Course)
(Short Agricultural Course)
(Other Courses)

Of which are you a graduate?

While most of the above is self explanatory, parts, however, need detailed explanation, especially as to how the questions were verbally interpreted to the farmers. It was made plain that, "how many years an owner", meant not necessarily a mortgage free owner, Years an Owner but how long he had been in full management and control of the farm on which he was then living.

Under "Home Life Conveniences", the three questions on heat, water, and light were to be answered by yes or no, "heating system" meaning, - any heating Conveniences system other than stove or fireplace, by either hot air, steam or hot water. These answers are later summed up under the heading of furnace heat.

Water system (bath) -- was originally put in two questions, in order to ascertain the number having running

"Lighting system", was explained as referring to any sort of lighting system other than the ordinary kerosene light. It may mean acetylene, gas, Electricity, or an other modern system.

The question of "highest school attended", is self explanatory, but this information was obtained by a slightly different form of question during the first two years of the work. It was impossible in such cases to determine whether the individual had graduated from, or only attended the respective institution referred to. Hence the necessity for classification on the basis of "highest school attended."

All other data such as labor income, total income, investment, value of residence, and number of losers, was obtained from the inventories and Labor Income, etc. summaries in the farm account books used.

Method of Study.

As suggested on a preceding page, these 825 records were classified into four groups, viz: Common School,

Short Course, High School, and College,
Grouping each man's record being put in the group under the highest school he had attended. Consequently many in the common school group have never finished the grades, and those in the higher groups range from one year's attendance to graduation from the respective schools.

It should be further noted that there is no double grouping, that is, in case a man has been in both short course and high school his record was thrown out, and not considered at all. While, if in short course and college, the record is found in the college group.

The college group includes (it is to be regretted) but a relatively small number of agricultural college men, the various other professional courses of law, medicine, ministry, engineering, Letters and Science, all being represented.

It will also be noted that as far as possible only fixed factors and their influence have been considered. That is to say, no consideration has been given to factors that

are variable from time to time and subject to readjustment at the individual's discretion. The assumption is that if the educated farmer profits from his education he will choose to vary such things as silos, size of farm, operating capital, size and kind of herd, etc., etc., to the very best advantage while the less educated will more likely fail to recognize these and adjust them to the most profitable proportions.

Results.

The results obtained are set forth in the following tables.

TABLE I.The Relation Between Education, Investment, and Income.

		Highest School Attended			
		Common School	Short Course	High School	College
				in	
				Agriculture	
:	:	:	:	:	:
:Number records	478	108		155	84
:studied					
:	:	:	:	:	:
:Average size of					
:investment	19958	22830		23502	27577
:	:	:	:	:	:
:Income from in-					
:vestment (5%)	998	1241		1275	1380
:	:	:	:	:	:
:Average Labor					
:Income	632	739		893	1056
:	:	:	:	:	:
:Total Income					
(Int. on Investment	1630	1980		2168	2436
:plus Labor Income)					
:	:	:	:	:	:
:Average value of					
:residence	1764	1837		1939	2558
:	:	:	:	:	:

From the above table it is noticed that those of the common school group were found to be making an average annual labor income of \$832. Those of the short course group \$739, while those of the high school were averaging \$893, and the college men were making an average of \$1056.

As here used, Labor Income is equivalent to net proceeds. In order to ascertain labor income, the total receipts (including increased inventory) are first ascertained. All cost of farm operations, including labor of all members of the farmer's family (except the farmer himself) are then paid. That portion of the family maintenance, obtained directly from the farm is deducted as well as 5% interest on the total capital invested. What remains after these deductions are made, according to this method (now widely used throughout the United States), is termed Labor Income. This is supposed to represent the amount that the farmer receives for his labor and management during the year.

The average size of investment likewise increases, being \$19,958 for common school, \$22,830. for short course, \$23,502. for high school, and \$27,577 for college group. The total income, before deducting the 5% interest on the investment is found to make even greater differences in the consecutive groups, there being a difference of \$806 between the total annual income of the college man and the one trained in the common school. This amount is equivalent to the income from an investment of \$16,100 in 5% bonds. Following this line of mathematical deduction it can be shown that a short course education will bring an added income to the farmer equivalent to that

from an investment of \$7000 in 5% bonds, a high school education is equivalent to a \$8700 investment, and a college education, as above stated, is equivalent to a \$16,100 investment above that of a common school.

The apparent tendency for the more educated man to live in a better house is also brought out by this same table.. The average value of the residences range as follows:

\$1764 for the common school group.

\$1837 for the short course,

\$1939 for the high school, and

\$2558 for the college group.

Thus it seems that the best educated men not only receive the largest labor income, total income, and earn a normal rate of interest on a larger investment in agricultural pursuits, but also maintain a higher average standard of living as shown by the value of the residences in which they live. This higher standard of living is also shown by the following table.

* * *

CURVES Showing

- Relation of Education to Standards of Living. -

$\%$ = the Percentage having
the Convenience named.

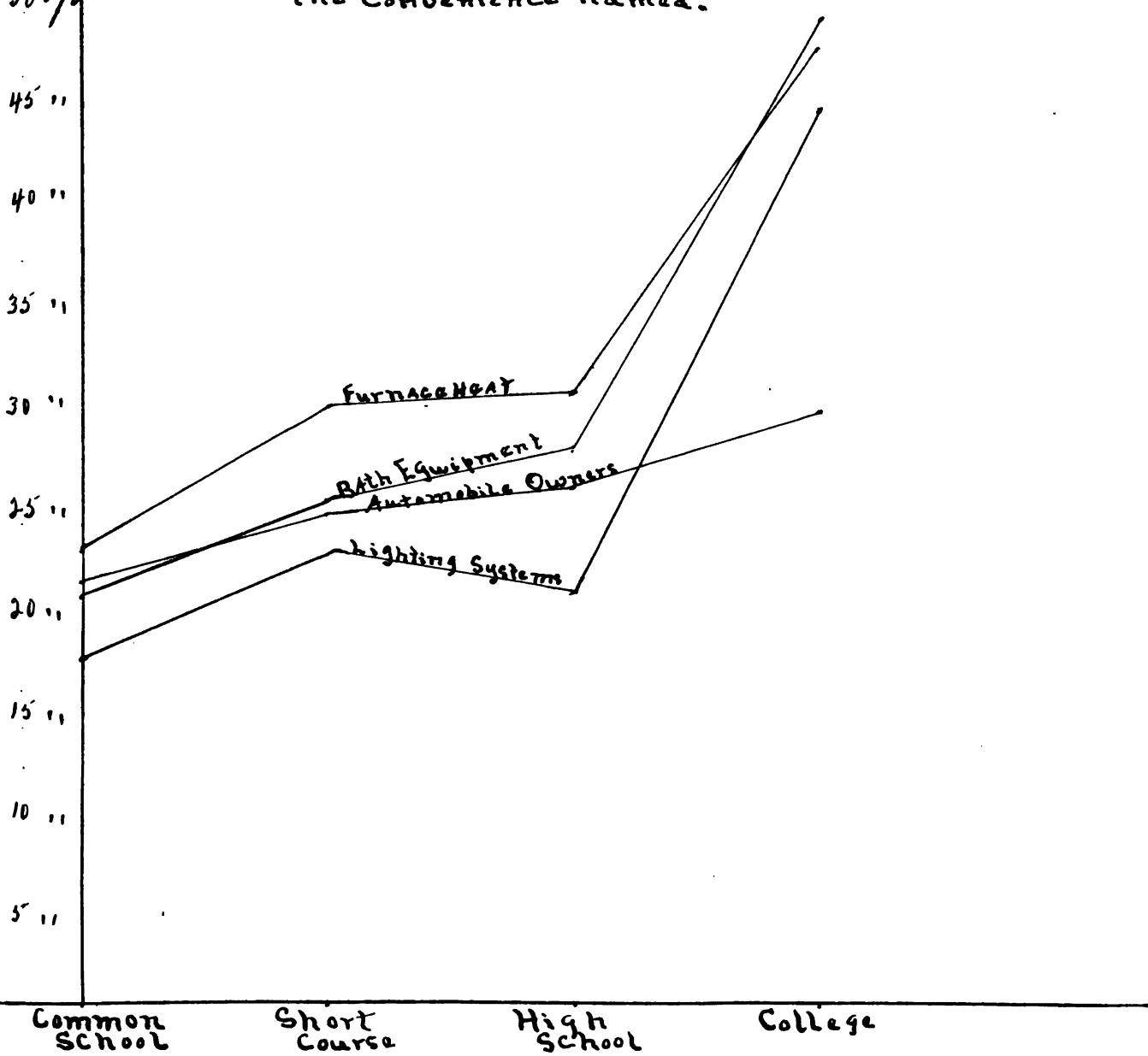


TABLE II.

The Relation of Education to Standards of Living				
Education	Highest School Attended			
	Common School	Short Course in Agriculture	High School	College
Percent having modern bath rooms	21.9%	24.1%	27.2%	48.5%
Percent having modern lighting system	17.0%	22.1%	20.5%	44.0
Percent having furnace heat	22.1%	29.7%	30.0%	47.0%
Percent having automobiles	20.0%	23.6%	25.4%	29.1%

The data in this table is plotted into curves as seen on the following page. The curves and the table show that apparently there is a decided tendency for the better educated men to maintain a higher standard of living, as all curves - bath equipment, modern lighting system, furnace heat, and automobile owners, have a decided upward trend in passing through the ascending stages of advancement in school work.

It is of course possible that those farmers who are

naturally the most efficient may have found their way to the college group. However, Table III seems to

TABLE III.

Age Groups

	-30 years	30-40 years	40-50 years	50 years
Common school	12%	21%	31%	36%
Short Course	42.2%	26.3%	18.4%	13.1%
High School	14.9%	36.2%	27.6%	21.3%
College	24.1%	27.6%	27.6%	20.7%

in these records
 indicate that at least such is not the case, as a very large proportion of older men (36% past 50 years) are found in the common school group, - more probably because of limited educational opportunity fifty years ago than from lack of capability. In the short course group 13.1% were fifty years or over and only 21.3% of the high school and 20.7% of the college men were that old. However, age gives an opportunity for experience and a chance to have had a longer period of ownership. This, our general observation would lead us to consider an advantage and the limited data tabulated in

Table IV seems to corroborate this belief.

TABLE IV.

Relation of Period of Ownership to Labor Income.
(Common School Group Only).

Years Owner	Number Considered	Average Labor Income
1-5	80	\$540
5-10	81	\$488
10-15	64	\$601
15 plus	100	\$637

Except in the case of the two first periods, the labor income increases directly as the period of ownership increases.

On account of the experience thus gained the common school group has the advantage as may be seen from the following table.

* * *

TABLE V.Period of Ownership.

Groups	Number Considered	Average Years an Owner
Common School	329	13.6
Short Course	134	10.0
High School	59	11.7
College	61	10.1

Here it is shown that the average period of ownership for the common school group is 13.6 years, while only 10 years for the short course, 11.7 years for the high school, and 10.1 years for the college group.

Another point thought worthy of consideration in this study is that of the possible chance that the individuals in the various groups stand of making a large income. Table VI aids in Chances for Large Income making this comparison.

TABLE VI.

Relative Chances for Making Large Income.

Labor Income	Highest School Attended			
	Common School	Short Course in Agriculture	High School	College
-\$500	8.8%	17.4%	10.5%	12.5%
-\$500 to +\$500	51.3%	26.2%	33.5%	33.5%
+\$500 to \$1000	18.1%	21.7%	21.1%	15.2%
+\$1000 to \$2000	14.9%	22.8%	20.3%	15.2%
+\$2000 plus	6.9%	11.9%	14.6%	23.6%

Here it is seen that only 6.9% of those in the common school group were fortunate enough to reach the \$2000 labor income mark, while 23.6%, nearly one fourth, of the college men did that well. It is interesting to note the high percentage of each group, that are apparently breaking about even (-\$500 to plus \$500). An especially large percentage of the common school men are found at this point. Such may be expected for as a rule those of that group are rather conservative, never taking many big chances. The percentage of the men with a college education who fall below the -\$500 labor

income mark is greater than it is in the common school group. However, considering the total percentage in each group that are making a positive labor income it is found that there is but little difference, 75.4% of the common school men, 71.3% of short course, 78.7% of high school, and 76.1% of the college men were making positive labor incomes.

Summary.

It is unfortunate, indeed, that it is not possible to use Farm Profits instead of Labor Income. The latter is very indefinite and variable, as it includes too many things that differ in each individual case. It is conceivable that two farmers may have the same labor income, yet one may live in a hut and subsist mainly on dried fruit and wild game, while the other lives on the very best of food, in a strictly modern home with furnace heat, electric lights, and an automobile at his door.

Again, the term labor income is misleading. A farmer may have a minus labor income and still be making a profit on his farm. That is, he may be making the current rate of interest on his investment, paying every member of his family current wages, furnishing them and himself pleasure vehicles, furnishing nearly all the food for the family and providing

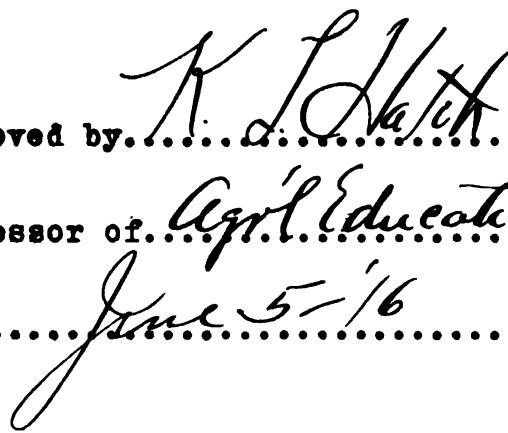
a good home for them to live in. The cost of all this would change a large minus income to a plus farm profit, and since the term labor income is variable it is most probable that in the majority of cases it stands for more in the groups with the higher than in the lower degrees of education.

The conclusion from the results herein considered are:

- (1) That the better educated farmer stands better chances of making extra large labor incomes.
- (2) That they are able to live in a better home.
- (3) That they are more often able to provide for themselves and their families the modern conveniences such as,- bath equipment, furnace heat, lighting systems, and automobiles.
- (4) Besides being able to stand the added expense of living better they are also able to lay aside larger labor incomes.

Finally, this study indicates that, considering either standards of living or financial returns, the cost of an education to the farmer is a wise and profitable investment.

* * *


Approved by.....
Professor of.....
Date.....

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